

## Masonry cavity wall applications

### Introduction

Celotex is the brand leading manufacturer of PIR insulation boards, with its range encompassing the thinnest and thickest boards available to the construction industry today. All of the Company's products are manufactured at its plant in Suffolk, from where the dedicated Celotex Technical Centre offers advice and calculations for compliance with current regulations and legislation.

Celotex: We know insulation inside and out.

Use **Celotex CW4000** high performance thermal insulation in partial fill cavity wall applications to minimise insulation thickness and give the following benefits:

- Easy to fit between wall ties using cavity tie clips for retention
- Provides reliable long term energy savings for buildings
- Low emissivity foil facers give improved thermal insulation performance within cavity air spaces
- Excellent dimensional stability
- Conveniently sized boards for installation between cavity wall ties



Celotex CW4000

### Celotex CW4000 Technical Data

Product Code	Thickness (mm)	R-value (m <sup>2</sup> K/W)	Weight (kg/m <sup>3</sup> )
CW4025	25	1.10	0.85
CW4040	40	1.80	1.26
CW4050	50	2.25	1.55
CW4055	55	2.50	1.74
CW4060	60	2.70	1.90
CW4065	65	2.95	2.05
CW4070	70	3.15	2.19
CW4075	75	3.40	2.34
CW4080	80	3.60	2.48
CW4085	85	3.85	2.62
CW4090	90	4.05	2.76
CW4100	100	4.50	3.27

### Sustainable Insulation

Celotex PIR insulation has been independently assessed by BRE Global and has been accredited with an **A+ rating** when compared to the BRE Green Guide 2008.

The results also show that Celotex offers a lower environmental impact than other typical PIR manufacturers.

For further information about Celotex' sustainable insulation solutions, visit the sustainability pages of the website at [celotex.co.uk](http://celotex.co.uk)



 For premium performance including Class O fire performance Celotex CG5000 is suitable for this application.

## Installation Guidelines

Celotex insulation boards should not be installed when the temperature is at or below 4°C and falling.

- The wall ties used must be suitable for the structural requirements and incorporate a retaining clip to ensure that the insulation is held permanently in place. Normally the insulation is fitted against the inner leaf of the wall.
- For optimum thermal performance the unprinted foil surface should face the cavity air space.
- BBA-approved wall ties and clips should be used wherever possible. The advice of the wall tie manufacturers should be followed, but Celotex does not consider butterfly ties to be suitable for use with partial-fill cavity insulation.
- The first row of board-retaining wall ties should be installed at least one course below the damp proof course (DPC) and positioned at maximum 600mm centres horizontally, to provide a minimum support of two ties per 1200mm board.
- The second and subsequent rows of ties should be installed at 450mm centres vertically and maximum 900mm centres horizontally. Where required for structural purposes, it may be necessary to install ties at closer centres.
- Always ensure that each full or cut board is retained by no fewer than three ties around its perimeter.
- Fit the boards between the wall ties, and secure in place with a retaining clip on each tie. Ensure that horizontal and vertical joints are tightly butted to minimise heat loss.
- At openings such as doors and windows, use a proprietary insulated cavity closer.
- Where necessary, cut the boards to size using the [Celotex Insulation Saw](#) and straight edge.
- Where the cavity is closed at or below DPC level by a methane barrier membrane, use mechanical fixings to secure the board to the brickwork above the DPC. Avoid puncturing the gas barrier membrane.
- At internal (see Fig.1) and external (see Fig.2) angles, ensure that the thickness of the board continues around the angle and that sufficient wall ties are used.



Fig.1



Fig.2

### Gable walls

At gable walls (see Fig.3) it is recommended that Celotex CW4000 is taken up to the underside of the roof verges. In cold roof constructions, the product should extend at least 250mm above the ceiling insulation. The top edge of the insulation should be protected with a cavity tray.

### Cavity fire barriers

The requirements of the Building Regulations relating to fire spread in cavity walls can be met in buildings of all purpose groups without the need for cavity barriers, provided the construction complies with the provisions detailed in: Approved Document B, Volume 1, Diagram 13; and Volume 2, Diagram 34. For further information please refer to Celotex BBA certificate 94/3080

Celotex CW4000, being a non-melting thermoset material, may pass through cavity barriers so that a thermal bridge is avoided.

### Cavity obstructions

Unavoidable projections into the cavity, such as floor edge beams and steel columns, need careful detailing and may require a horizontal cavity tray.

To comply with the requirement of the National House Building Council (NHBC) or Housing Association Property Mutual (HAPM), a minimum 50mm clear residual cavity should be provided in any exposed zone.

For buildings up to 12m high, a minimum clear cavity width of 25mm may be acceptable, subject to exposure. The 25mm minimum constructed residual cavity width must be clear of all obstructions.



Fig.3



### Certifications and Accreditations

Celotex product CW4000 is covered by BBA Agreement Certificate No 94/3080. To download a copy of this certificate, visit the 'literature' pages of the website at [celotex.co.uk](http://celotex.co.uk)

### Further Information

If you wish to contact Celotex, please visit [celotex.co.uk](http://celotex.co.uk) and click on the 'contact us' page.

For information regarding **storage, installation and handling** of Celotex products, or for **Health and Safety** advice, please refer to the 'literature' pages of the website at [celotex.co.uk](http://celotex.co.uk)

Celotex has a policy of continuous product development and reserves the right to alter product designs or specifications without prior notice.

Calls to the Celotex Technical Centre are charged at 30p per minute from a BT landline and lines are open Monday - Friday from 8.00am - 5.15pm. Details are correct at date of publication - July 2012.

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